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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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SCHEDULED DISEASE IN 1913.

This week we print the summary of returns of scheduled disease for 1913. On the whole it shows very good progress.

Swine fever, as usual, is the most unsatisfactory feature. It has fallen this year to 2573 outbreaks as against 2920 in 1912, but this is probably merely one of the inexplicable fluctuations which have long been recognised in connection with this disease. We must either acquire new knowledge, or impose much more drastic regulations than heretofore, before any great progress is made with swine fever. New discoveries may enable us to prevent or cure the disease, and so supersede the stamping-out method. Otherwise, unless we choose to retain the disease indefinitely, we shall sooner or later be forced to accept that old saying of Sir George Brown—"Nothing short of cattle plague regulations will stamp out swine fever."

Anthrax continues to steadily decline, but the returns may be deceptive. So long as a local inspector is empowered to make a final negative diagnosis, but is obliged to submit a positive one to the Board for confirmation, there is a danger that some will report doubtful cases as negative. We indicated this unsatisfactory feature in the present Anthrax Order when it was issued, and we see no reason to change our view of it.

Only two outbreaks of Foot-and-mouth disease, both very recent ones, have occurred—a great contrast to last year. The disease is still in Europe, and that we should have had so little speaks well for our regulations.

Glanders is still decreasing, but for two years past its decline has been much less rapid than in the earlier years of the present Glanders Order. There were 533 outbreaks in 1909, 346 in 1910, 209 in 1911, 173 in 1912, and 162 in 1913. The present slow progress is rather puzzling—but, slow though it is, it is nevertheless sure.

Parasitic mange is declining, but is still one of the most prevalent of scheduled diseases. The figures show that legislation was very necessary, and speak well for the present regulations. Sheep-scab, too, continues to show a substantial annual decline; and its present regulations will suffice to eradicate it in time.

Less than a year's work has been done under the Tuberculosis Order, and we reserve this for future reference. Finally, we recall quite a number of animal diseases which are still scheduled, but which never figure in summarised returns. They have disappeared from the country, some many years ago, and some of the diseases specified above will soon follow them—thanks to the work of our profession.

AN INTERESTING CASE OF PSAMMOMA.

Subject.—Aged bay mare. The previous history of the case was, that the mare had been treated two years prior to this admission to hospital, for large abscesses on the off shoulder, probably the result of strangles; also, a little time later, for a severe attack of impaction of the stomach, during which attack delirium lasted for a considerable longer time than is usual.

After the mare was returned to duty she had occasional fits of sulkiness, occurring three or four times yearly, and lasting from two to three days to a fortnight, during which periods she would be entirely off her feed and drink very little water. It sometimes happened that these sulky fits would occur at exercise, and the mare would stop and could not be moved for half-an-hour or more, when she would walk quietly back to the stables.

During this incipient state of the disease, the symptoms were indefinite and beyond a tendency to become hidebound and unthrifty, regaining condition at intervals, nothing could be observed. The mare, in these early stages, was usually very quiet and never attempted to savage anyone, but occasionally attempted to do so latterly, in the advanced stages of the disease.

Temperature remained normal, pulse slow, and when placed in a loose box she used sometimes to stand with her head near a corner, but not for any length of time. After a few months the sulky fits became more frequent, and longer in duration. The mare would stand for hours in one position, the characteristic attitude being with her head near the ground, in or near the corner, all four legs drawn close together under the body, and frequently raising one hind leg off the ground and swinging it backwards and forwards. This would continue for hours and sometimes days at a time. Rigors were frequently noticed.

At other times the mare would walk around the box, generally to the off side.

Another peculiarity was that she would stand quite still with a straw in her mouth, and turn her head and neck in an upward and backward direction towards the near side. This symptom also would be continuous for days at a time.

The pupils remained normal, showing no undue irregularity in size. Nothing else could be observed except the rapid emaciation and hide-bound appearance which now set in. At this stage the patient would eat and drink practically nothing.

Psammoma was now diagnosed, and the mare destroyed by chloroform. Destruction was justi-

fied by the post-mortem, which revealed a large psammoma, about the size of a large goose's egg, in the left ventricle of the brain.

Diagnosis was confirmed by microscopical examination.

There was also a small tumour in the right ventricle, the size of a walnut, which unfortunately is not shown in the photograph.

Inasmuch as the symptoms of brain trouble began to make themselves manifest after impaction of the stomach had been diagnosed, I am inclined to think that the symptoms of impaction may possibly have been confused with those of commencing tumour formation.

B. A. JARVIS, Capt. A.V.C.

Khartoum. Dec. 20th.

ACUTE ENDOCARDITIS IN A HORSE.

Recorded by W. H. WILKINSON and J. F. CRAIG.

The subject of this affection was an aged chestnut heavy cart gelding, belonging to a client of Mr. Wilkinson.

History.—Up to the appearance of this disease the gelding had enjoyed a clean bill of health, and had proved a good useful worker. On account of the Dublin strike, the services of the animal were not required, and it was sent out to grass. Early in November it was taken in, preparatory to commencing work again. In a day or two after its return to the stable it began to show serious symptoms, and Mr. Wilkinson attended the patient.

Date, November.	6th.	7th.	8th.	9th.	10th.	11th.	12th.	13th.	14th.
Pulse.	—	—	74	72	72	86	84	86-92	died 7 a.m.
Temperature F.	105·2	103·2	103·8	103·2	103·2	102·6	103·8	103·6	

Symptoms.—The condition of the gelding was good, and it fed well. It was, however, very dull, not inclined to move, and unable to work. Œdematous swellings appeared on the limbs. There was no jugular pulse. The pulse was small and frequent, but not irregular. The temperature was raised, and the rise of temperature continued throughout the attack. The temperature and pulse are noted in the accompanying chart.

The cardiac impulse was very marked on the left side, and was evident to a very casual inspection. The heart sounds were exaggerated, and could be heard very distinctly over the upper portion of the chest wall.

The diagnosis of heart disease was made, and the owner informed that the animal might die suddenly.

On the morning of the 14th November the gelding died rather unexpectedly, and the heart was removed and examined later in the day.

Lesions. The right heart was much dilated. A few sub-endocardial hæmorrhages were noted, one about the size of a sixpenny-piece on one papillary muscle in the left ventricle, and another, smaller one, on the septum in the right ventricle. The bicuspid, aortic, semilunar, and tricuspid valves were all affected. In parts they were roughened, especially on the surfaces facing the blood stream. The accompanying photograph—the heart, split open and flattened out, showing the interior—gives an indication of the condition of these valves. In the tricuspid valve the left cusp (1) presented a fibrinous deposit about the size of a hazel nut, the right cusp (2) presented one about the size of a walnut, which was attached to a similar deposit on the wall of the right ventricle, the posterior cusp was diffusely thickened. The bicuspid valve was also thickened throughout and very dark in colour. There was on it a slight layer of fibrin covering the cusps towards their free border. The segments of the aortic valve (4) were affected in a similar way: slight fibrinous nodules had formed on the inner surface of two of the cusps, and at the bases of all the segments. The pulmonary semilunar valve was normal. In the lesions small Gram staining diplococci were found in pure culture.

The photograph was taken by Mr. G. E. Haines, R.V.C., Ireland.

ADMINISTRATION OF CHLOROFORM STANDING.

I was very interested in reading Mr. Howard's paper in *The Veterinary Record* on the above subject. I have administered chloroform standing in a good many cases in both horses and mules, and I thoroughly agree with Mr. Howard as to the advantages of the method.

For the past two years, since I have been in this depot, I have administered chloroform standing in very nearly all cases I operated on, and have not had a single accident or death from chloroform. Unfortunately I have not got a record of the number of cases, but it is quite considerable. The average number of stock in this depot, including horses and mules, is about 3500, all ages from six months to six years.

The method I adopt is practically the same as described by Mr. Howard, except that I chloroform outside and hold the horse or mule by means of an ordinary head collar with two ropes attached, one on either side. I use a Carlisle muzzle, excluding air, and start with 3 ozs. for anything over three years of age, under that age I start with 2 to 2½ ozs. It is often necessary to give another ounce before the animal goes down, but if the chloroform is quite fresh 3 ozs. is, as a rule, sufficient, though cases do occur in which one has to give considerably more. I have given 6 and 7 ozs. without any ill effects.

The majority of cases go down perfectly quietly

in four to six minutes, without giving the slightest trouble; but there are some cases in which there is a stage of excitement, and some horses do fight, but even then there is no difficulty in holding them. I have never yet seen a horse get away.

Cases in which there is much excitement I attribute to the chloroform not being fresh. With fresh chloroform and a 3oz. dose, the horse goes under so quickly that there is no time for the stage of excitement. Beyond allowing the animal to walk round if restless, and holding up a fore leg if he is slow in going down, I do not interfere with him and do not put on hobbles till he is on the ground, and then only if the operation is likely to take time. There is no difficulty in putting on hobbles when the animal is down.

During the discussion on Mr. Howard's paper some people seemed to think there was considerable danger in horses rearing up and falling backwards. The danger appears to be more imaginary than real. I must say I have seen a few horses do so, but not immediately the chloroform muzzle was put on, as they were generally partially under, and did not do themselves the slightest harm.

Like Mr. Howard, I am quite convinced that if people try this method of administering chloroform they will find it efficient and safe, and particularly useful with troublesome horses. The method may be objected to on account of taking more time than the ordinary method, but it really does not do so, as it is important to remember that the moment the horse goes down he is in a fit state for surgical operation.

J. W. O'Kelly, Capt. A.V.C.
Remount Depôt, Mona, Punjab, India.
10th December, 1913.

THE EFFICACY OF ANTI-TETANIC SERUM.

I read with much interest—and some astonishment—the letter of "Pre-Historic" on immunisation against tetanus, published in your issue of November 29th, 1913.

It has been my fortune, or misfortune, to practise in a tetanus district for more than thirty years. In the pre-antitoxin period I treated my cases over a long series of years and got a few, very few, recoveries under the old methods of treatment. To-day I do not see half-a-dozen cases of tetanus yearly in a somewhat active town and country practice. I have taught my clients the value of immunisation, and many of them keep tetanus antitoxin on hand as a staple stable supply, giving a dose to every animal that receives even a trivial injury. I immunise my surgical cases automatically, without consulting the owner, and usually without even mentioning the fact that I have done so. If I castrate a valuable horse he gets a dose as soon as he gets up, and I have never seen a case of tetanus follow immunisation practised within 48 hours of the reception of the injury.

Furthermore, during the past six years I have been more or less closely in touch with the laboratory end, and letters of complaint about biological preparations reach my desk from all parts of the United States and Canada. I have never received a single complaint going to show that tetanus followed proper and prompt immunisation.

Now I do not wish to convey the idea that tetanus antitoxin is a specific immunising agent; *it is not.* We may immunise against enough toxin to kill a horse, but can hardly expect the same number of units to protect against an amount of virulent toxin that would kill a dozen horses.

I do, however, want to drive the fact home that if we insist on getting a properly tested and standardised serum, and immunise our surgical cases promptly, we shall cease to worry about the tetanus corner of our graveyard.

I append the American Standard to allow comparison with the requirements existing in England.

"One tenth of a unit neutralises 100 minimum lethal doses of toxin for 350 Gram guinea-pig."

All tetanus antitoxin must be tested physiologically before it is marketed.

It is possible to thoroughly immunise a horse against the most massive doses of the toxin and find that his serum had little protective value for other animals.

Thomas B. Rogers.
Woodbury, New Jersey, U.S.A., Dec. 19.

Advanced Tuberculosis in a Two-year Old Short Horn Bull. Death from Bronchial Hæmorrhage.

On the night of Friday, December 12th, the Police Inspector of this town, reported a case of suspected tuberculosis in a bull at a farm some six miles from here.

On the morning of the 13th I visited the farm, and found a two-year old short-horn bull. I examined him clinically; found the temperature and pulse normal, breathing accelerated, and a strong harsh cough. I found that he had been blistered on both sides of the chest. I said to the owner "You have had this animal under treatment?" "Yes," he said, "He has been off and on for the last six weeks under a veterinary surgeon, but on Thursday night last he bursted a blood vessel and bled profusely from both nostrils. I was told by the veterinary surgeon to report the case to the police, which I did." I explained to him the process of the tuberculin test, and got his written consent to the inoculation. I told him I would put the animal under the test on the morning of the 15th—Sunday intervening. I also told him to keep the animal under strict observation, and to let the upper part of the loose box door open, for if he got another strong fit of coughing and broke a blood vessel, he would bleed to death.

On the Monday morning I again found temperature normal, breathing better, and he was eating well. The owner said "He looks to-day more like his usual self." I injected the tuberculin at 9 a.m. and said I would visit again at 2 to 3 o'clock p.m.

At 1.30 a messenger came down to tell me that the bull had had a bad fit of coughing and had bled to death.

On the morning of Tuesday I made a post-mortem examination. The left lung was in a very advanced stage of tuberculosis, the right not much better; the only part that I could say had a healthy appearance was the bottom of the right lobe. I found the mediastinum and pericardium studded with miliary tubercles, but to me the most remarkable feature was the condition of the liver. It was twice the usual size, and of a bluish grey colour, and on dissection I found it of a schirrous nature; on the right lobe I found an abscess the size of a hen's egg, and on middle lobe one as large as a walnut. On opening them I found pus of the colour and consistence of cream. I am sorry I did not keep some for microscopical examination.

Since the Order has come into force I have had many cases of tuberculosis with emaciation and of tuberculosis of the udder, but up to the present I have not been able to find the bacilli in milk.

I hope that the day is not far distant when the Hon. Mr. John Burns' Milk and Dairies Bill will be on the Statute-book.

The hue and cry now is Home Rule and Church Disestablishment, but when the Milk and Dairies Bill becomes law, the churchyard and cemetery establishments won't be so well patronised. One thing is very sure, the infant mortality from this disease will be from 40 to 50 per cent less.

About eight or nine years ago I wrote a letter to *The Denbighshire Free Press*, about the bad sanitary condition of some of the dairies and shippons in this part of the country, but I am glad to say that a great improvement has taken place since then.

T. J. Simpson, M.R.C.V.S.
Veterinary Inspector for the County of Denbigh,
Fulbrooke, Ruthin, Dec. 29th.

ABSTRACTS FROM FOREIGN JOURNALS

The Influence of Mallein Injections upon the Diagnostic Blood Tests for Glanders.

Arpad Marcis, as a result of work done at the Royal Hungarian Veterinary High School at Budapesth under Prof. Hutyra, has published an article upon this subject. Various workers, Miesoner among them, have already studied the question of whether the subcutaneous mallein test has any influence upon a subsequently performed agglutination or complement fixation test. They have generally agreed that such an influence exists, and that the blood of non-glandered horses, soon after the injection of mallein, developes and for some little time retains agglutinating and complement-fixing substances similar to those found in the blood of glandered horses. Therefore a non-glandered horse, after the injection of mallein, may react to the agglutination and complement-fixation tests like a glandered one. The subject is obviously one of great practical importance, on account of its bearing upon the reliability of the diagnostic blood tests in horses previously injected with mallein. The author, after careful experiments of his own, has arrived at the following conclusions, which in the main accord with those of previous workers.

(1) The subcutaneous injection of mallein causes the formation in the blood of non-glandered horses, of specific precipitins, agglutinins and complement-fixing amboceptors, such as exist in the blood of glandered horses.

(2) Precipitins appear after three days, agglutinins after from five to seven days, and complement-fixing amboceptors after from six to ten days. They appear in the blood in the same quantity as in the blood of glandered horses.

(3) The quantity of antibodies existing in the blood of malleined animals begins to diminish from two to three weeks after the injection of mallein, and after three months antibodies can no longer be demonstrated.

(4) In horses which have been injected with mallein, the results of serum tests are of no value until at least three months has elapsed since the injection of mallein.—(*Berliner Tier. Woch.*)

Intestinal Obstruction Caused by a Diverticulum of the Floating Colon.

Moulis and Salenave record (*Rev. Vét.*) the case of a horse which showed violent colic, with manifest symptoms of intestinal obstruction. Purgatives were given both subcutaneously and by the mouth, but all proved useless. The animal was destroyed.

Post-mortem, the cause of the colic was found to be a strangulation of the small colon. The terminal portion of the colon showed a small diverticulum shaped like the finger of a glove, about 1 3/5th inch in length by 3/5th inch in diameter. The diverticulum was in communication with the colon, and was continued by a thin broad cord, which extended over and was inserted upon the rectum. This cord, twisted upon itself, had formed a coil encircling the colon, and by compressing it had caused the intestinal obstruction.—(*Annales de Méd. Vét.*)

W. R. C.

CENTRAL VETERINARY SOCIETY.

[National V.M.A.—Southern Branch].

The usual monthly meeting was held at 10 Red Lion Square, W.C., on Thursday, December 4. Prof. G. H. Wooldridge, President, in the chair. Also present:—Messrs. A. Crabb, J. B. Buxton, P. W. D. Smith, J. F. Macdonald, W. R. Davis, Ralph Bennett, N. Almond, R. Gorton, Prof. E. B. Reynolds, M. Cahill, J. W. McIntosh, W. S. King, T. C. Garry, G. H. Livesey, A. E. Willett, C. H. Sheather, H. D. Jones, F. G. Samson, E. L. Stroud, D. Stewart, R. J. Foreman, T. S. Price, R. Eaglesham, L. Auchterlonie, W. R. Clarke, W. Perryman, S. H. Slocock, S. L. Slocock, Col. L. J. Blenkinsop, W. Willis, Sidney Villar, R. Bryden, H. King, F. W. Willett, F. J. Taylor, and Hugh A. MacCormack, Hon. Sec., and sixteen visitors.

The minutes of the last meeting were taken as read, and signed.

Correspondence.—The HON. SEC. said he had received a postcard and letter from Prof. Hobday and Mr. J. Willett expressing regret at their inability to be present.

A letter from the President of Tenth International Congress :—

"November 19th, 1913.

Dear Sir,—As you are probably aware, the Tenth International Veterinary Congress will be held in London in August of next year. The suggestion that the meeting place of this Congress should be in Great Britain emanated from our *confrères* on the Continent, and was intended as an honour to the country of John Gamgee, on whose initiative the first Congress of the series was held fifty years ago. A large and representative Organising Committee, of which I have the honour to be Chairman, has been at work for nearly two years, and the arrangements for the scientific work of the Congress are now well advanced. The Committee, however, are not free from anxiety with regard to the provision of the large sum of money that will be required to carry the Congress through in a manner creditable to our country and profession. Judging from the previous congresses, and taking into account the probability that hospitality will have to be extended to an exceptionally large number of foreign members, no less a sum than £4,000 will be required for the purpose. A general appeal to the members of the profession in the country was issued in June, 1912, but in response to that only some 500 members have promised or paid a donation, although the number of members on the Register at present is over 3,400.

I cannot but think that there must be many who could afford to give a donation but who have not done so because they have not realised to what an extent the honour of our profession is pledged to see that the Congress in London shall be no less successful than any of those previously held. It seems to me that this is a matter to which no member who takes a pride in his profession can be indifferent, and I earnestly appeal to you for such a donation as you feel you can afford.

Donations should be addressed to the Hon. Sec., Mr. F. W. Garnett, J.P., M.R.C.V.S., Dalegarth, Windermere.—I am, dear sir, yours faithfully,

J. M'FADYEAN."

The PRESIDENT pointed out, in regard to the Veterinary Congress, that the Society had already done its part, as a Society, and he hoped individual members of the profession would now do their duty.

Mr. LIVESEY'S SPECIMEN.

The PRESIDENT reminded members that Mr. Livesey brought some specimens of what appeared to be parasites found found on the floor of a dog's kennel in moisture that appeared to have been vomited. Members present at the time were unable to identify them. They had since, however, been identified through the agency of Dr. Leiper by Dr. Alcock as the larvæ of the "lesser house-fly." He (Prof. Wooldridge) suggested that they were probably accidental, and had not come from the dog. As Mr. Livesey had subsequently gone into the matter somewhat further he would now call upon him to supplement his previous report.

Mr. LIVESEY said that since two meetings ago, when he exhibited the specimens referred to, he had further examined the dog. It would be remembered that the specimen was a larval form of some insect, appearing like segmented larvæ with hair-like processes on each segment, and a distinct proboscis. He did not know how it occurred, except that it was found in the dog's bed, in patches of moisture, which might have been from the bowel, or from the stomach. They were found in twos, threes, and larger numbers, and in all stages of development. At that meeting the suggestion was thrown out—by the President he believed—that these larvæ were entirely accidental, and had been incubated from eggs deposited in the fæces or vomit of the dog. He (Mr. Livesey) was unable at the time to contradict that, but it seemed to him a wrong view, because there were many other dogs on the premises and in the same room, some of which were naturally dirty in their cage or in their runs, yet only in this one dog were the larvæ found. Therefore after the meeting in order to satisfy himself as to where they came from, he gave the dog an emetic on an empty stomach; and he found quantities of the larvæ, in various stages of development, in the resulting mucus. On repeating the emetic a week later he could not find anything. It seemed to prove that on the first occasion the larvæ were inhabiting the dog's stomach. It was not until a month later that he heard the result of the examination which was made by Dr. Leiper. The parasite was new to him (Mr. Livesey) and he did not think it was described among those infesting the dog. The animal was brought from Natal.

Dr. LEIPER said he did not personally examine them. At his Institution there was an unwritten rule that when an entomological specimen came in, it was handed over to the entomologist. After he (the speaker) had ascertained that it was not a worm, he had nothing further to do with it. Dr. Alcock was very interested in the material, and was quite definite in the opinion he gave on the material submitted.

The PRESIDENT said it would be well if the information could be added as to where the dog obtained the material from. It seemed possible that the infestation with these things was accidental, even though it seemed proved that they had inhabited the dog's stomach. If Mr. Livesey still had the dog, it might be well to give it yet another emetic, to see if any were still left. He (the President) could not imagine that they had been brought over by the dog from Natal.

ELECTIONS AND NOMINATIONS.

Messrs. NORMAN THOMPSON, M.R.C.V.S.; B. A. MCGUIRE, M.R.C.V.S.; W. H. ANDERSON, M.R.C.V.S.; and M. G. BYERLEY, F.R.C.V.S., were unanimously elected Fellows of the Society.

Messrs. H. H. MORROW, M.R.C.V.S., 156 High Street, Shadwell, E, and J. R. HAYHURST, M.R.C.V.S., Cattle Market, Islington, N., were nominated, to come up for election at the next meeting.

PRESIDENTIAL ADDRESS.

Prof. G. H. WOOLDRIDGE.

Gentlemen,—It is now two months since you conferred on me the very great honour of electing me your President for the year 1913-14. It would seem superfluous, therefore, and somewhat belated to inflict upon you anything in the nature of a Presidential address, and had I been left to my own inclination in the matter I should certainly have avoided asking you to submit to the ordeal. I am reminded, however, that it has always been the custom, and as I have great respect for ancient custom I must perforce ask you to be patient with me awhile.

When referring to "ancient" customs, however, I must be rather careful, for although the Central Veterinary Society is one of the oldest veterinary societies in the British Isles, we still have some of its founders with us in the persons of Mr. Rowe and Mr. T. Salusbury Price, neither of whom can yet be called "ancient" if appearances and capacity for work are to be the bases on which to form an opinion. The original members are certainly becoming few, the last to leave us being our great friend and adviser, Mr. William Hunting, of whom I had to make sad reference at our last meeting.

One of the most regular attenders, it is very difficult to realise that we shall not have him at our meetings any more, and we shall miss him sitting at his old favourite corner. The name of Hunting will live as long as the veterinary profession exists. As most of you are already aware, a committee has been formed and a fund opened to institute a suitable memorial in his honour, and I venture to express the hope that all the members of this Society will forward some small donation to the fund, in order that the memorial, whatever form it shall take, may be well worthy of the man who did so much so ungrudgingly for all of us.

The Central Veterinary Society is not only one of the oldest, it is also one of the most important of the British veterinary societies, exerting as it does far reaching influence on veterinary politics, and on other matters of veterinary procedure. I have been surprised on more than one occasion when some burning question has been exercising the minds of the profession, and I have asked provincial veterinary surgeons what view was held in their Association, and have been told "we have not discussed it yet, we are waiting to see what line the Central takes first." That is really a wonderful compliment to the Central, and speaks well for the calm deliberation of its members, and the careful guidance of those at the helm in the past. I repeat this not in any spirit of boasting or flattery, but in order that we should realise the important rôle played by the Society, and carefully weigh over our words before giving utterance to them. I trust that the discussions of the Central during my year of office will maintain the same high level, and that we shall lose none of our influence for good in professional matters generally.

In the coming year we are hoping for great things in the veterinary world. First and foremost, there is our Veterinary Surgeons Act Amendment Bill, which we trust will be passed into law. Whatever may have been said of it in its original form, when it also contained clauses designed to protect the profession and the public against various forms of fraudulent practice, it is now a purely domestic Bill, designed only to enable us to raise funds from our own ranks in order to keep the professional flag flying. There is now no reason whatever for external opposition, and it is to be hoped that it may be passed in time to avert the otherwise inevitable bankruptcy of the body corporate.

The next most important event for the coming year is the International Veterinary Congress of London. I do not wish to weary you with repeated appeals for donations to the organising and entertainments fund, but I would point out that the credit of the veterinary profession of the British Isles is pledged in the success of this Congress. The International Congress came into being through the efforts of an Englishman, John Gamgee, and it will be only right and proper that fifty years later the veterinary profession of the United Kingdom shall be able to proclaim within its own domains the most successful of a successful series of International meetings. I understand that up to the present only about one member in six of the profession has sent a donation to the fund. I hope that a goodly proportion of the remaining five-sixths will quickly send along even a small donation, remembering the old Scottish proverb "many a mickle makes a muckle," and so assure the success of the Congress. The benefits of such Congresses are incalculable, for it is only by open and free interchange of views and experiences that progress is possible. We have found that to be the case in local and national affairs as shown in the case of our own Society. It is the same in a far greater degree in International matters.

Only last week I was talking to a veterinary surgeon about this Congress, and he asked bluntly, "What's the good of it?" A little later I found that he did not even belong to his local veterinary society, although he lived within wonderfully easy access—within a mile—of the usual place of meeting! I enquired the reason, and was asked in return "What's the good of it?" It was quite useless to discuss the matter with a man in that frame of mind, so I gave him up, retorting as the coster did to his pessimistic friend "What's the good of anyfink? Why, nofink!"

I fear there are too many apathetic members of our profession like him, and I wish I could appeal to them to open out a bit, to come out of their shells and mix a little more with their professional brothers. I am sure they would be more than amply repaid, for one takes a much more intelligent interest in any difficult case if one has had an opportunity of discussing it with a professional brother. To some men, however, nothing is any good unless it shows a fair prospect of bringing in an additional guinea at an early date. I am sorry for those men, for I can hardly imagine life to be worth living under such conditions.

The question of the employment of unqualified assistants is an old one, but it was brought to my mind last week by reading an advertisement for one in *The Veterinary Record*. It is a very questionable practice if it is intended to employ the unqualified man to attend to cases professionally. In my opinion such a practice is decidedly unprofessional, and really amounts to "covering," which is regarded as conduct "disgraceful in a professional sense" and liable to severe treatment by the Registration Committee. On the other hand, I can see great uses for such men as infirmary attendants, and perhaps dispensers, but they should not be styled "assistants" any more than a farrier who assists one by paring feet for corns or other conditions. The employment of unqualified assistants is mainly responsible for the manufacture of quacks, and often the first man to complain about a quack is the veterinary surgeon who made him—"his own chicken coming home to roost."

A subject that I shall hope to introduce for discussion one day during the year is the question of cruelty to animals. It is a subject we seem to shun for debate, and yet it is a question concerning which we are constantly consulted. The pitiable spectacle of two professional men in the witness box giving evidence on a given case, so absolutely opposed as to be entirely irreconcilable, should certainly be avoidable. It is a matter of small wonder that a magistrate, being a layman in veterinary affairs, feels sometimes bound to disregard entirely such professional evidence. I feel that we ought to regard our professional status more carefully and not run the risk of such adverse comment, which is usually brought about by exaggeration in opposite directions by witnesses on either side, whose zeal to win the case for their respective clients over-rides their discretion. There should not be such divergencies of statement on questions of fact, such as the presence or absence of lameness, but differences of opinion as to the degree of pain caused may quite honestly be held and expressed There are many aspects of the whole problem, and I think they will well repay an evening's discussion.

Perhaps I may be excused for referring very briefly to the encouraging speech delivered at our annual dinner by Sir Sidney Olivier, the new Permanent Secretary of the Board of Agriculture and Fisheries. Those of us who were privileged to hear him that evening fully recognise that we have a good friend in him, and one who realises the great services which the veterinary profession is rendering, and can render to the community, as regards both the health of the animal population and the health of man, by collaboration with the sister medical profession.

The paper that we are to get to-night from Dr. Leiper is a striking commentary on that point, for since certain parasites of our patients may infect man and cause serious trouble in man, then it behoves us to

tackle our own patients and so assist the medical man in eliminating those risks to the human subject.

I will not detain you any longer now, for, like yourselves, I am anxious to hear Dr. Leiper and to see what he has to show us. In conclusion, I must offer my sincere thanks for the very great honour you have done me in electing me your President during this most important year, and with the hearty co-operation of one and all of you I shall hope to justify the confidence you have reposed in me.

Mr. PERRYMAN proposed a vote of thanks to the President, and expressed his pleasure at seeing Prof. Wooldridge in the chair. He had given a very interesting, though cursory, review of professional work and doings, and had mapped out a course of conduct which he supposed was intended for members to follow in the new year. It was the wish of those members to heartily support the President during his term of office.

Mr. SLOCOCK seconded the vote of thanks, and it was carried.

The PRESIDENT briefly acknowledged the compliment.

CONGRESS OF THE R.S.I. AT EXETER.

Mr. J. W. MCINTOSH presented and read his report.

Mr. President and Gentlemen,—I have first of all to thank you for permitting me the opportunity of attending this important Congress as your delegate. It also gave me an introduction to the beauties of Devonshire—a land full of historic interest and glorious scenery. No more suitable centre than its chief town could have been selected wherewith to combine business with pleasure. Exeter is no township of mushroom growth, but a city shrouded in memories of the past, still retaining rights and privileges awarded by England's rulers long ago.

The Congress was received by the Right Worshipful the Mayor of Exeter. The first general meeting was held on July 7th. The Right Hon. Earl Fortescue, K.C.B. (Lord Lieutenant of Devonshire) was installed as President of the Congress, and delivered his inaugural address.

Very suitable accommodation was provided for the meetings in the University College, Guildhall, Victoria Hall, and the Royal Albert Memorial, and excellent arrangements were made for the reception and convenience of members and delegates.

The business of the Congress was divided into four sections and five conferences, all of which were well attended. Such conferences sometimes suffer from being confined to experts, but the gathering at Exeter while providing lavishly for specialists has also had something to say to people in all branches of social activity and may, I think, be heartily congratulated on having produced a number of papers of very great interest. All of these have been published, and in view of this, I shall not occupy much of your time with my remarks.

Conference of Veterinary Inspectors. This conference met on the Wednesday (July 9th) under the genial chairmanship of Prof. Penberthy who, in a very excellent address offered the members his congratulations on the formation of an Association the aim of which was to render their services still more valuable to the community and to obtain for their work the recognition it deserves.

At present there was prejudice amongst stockowners against the use of tuberculin as a test for tuberculosis. It was certain to his mind that without this, or some other aid, at present unknown, the eradication of tuberculosis would never be accomplished. He looked to the intimate relations of the Veterinary Inspector under the Tuberculosis Order and the owner of infected herds, as a means of establishing confidence in this aid to diagnosis, and an extensiv adoption in the interests of the stockowner and the community.

The final report of the Royal Commission on Tuberculosis had been received and discussed, with the result, he ventured to think, of deepening the conviction that some portion of the tuberculosis of human beings, especially of infants and young children, owed its existence to tubercle bacilli derived from the lower animals and principally taken into the body with cow's milk and other animal food. The Chancellor of the Exchequer had entered the arena, and, through the National Insurance Act, opened up the avenues of curative treatment.

Demands for the removal of the danger arising from tuberculous animals, though not less insistent on the grounds of being necessary, appeared to have become more moderate and nearer to being practical. He believed that every competent person, who had made a careful study of tuberculosis in cattle and other domesticated animals must be convinced that other and more drastic measures would be required to effect the final elimination of tuberculosis from the live stock of the country. Regarding the Tuberculosis Order, 1913, the stockowner naturally felt that compensation should have been on a more generous scale, and it was to be regretted that it was not frankly admitted that it was, in reality, purely a matter of national health. It was doubtless intended to be complimentary to a "Milk and Dairies Act," and without the latter the Order was incomplete.

Milk and Dairies Bill. Mr. Wm. Ascott, M.R.C.V.S., opened a discussion on the Milk and Dairies Bill. He gave a hearty welcome to the measure, condemned many of the dairies in the South-West of England as a disgrace, but advised that caution should be exercised in putting the Bill in force assuming it became an Act of Parliament, lest by too drastic measures in the first instance, there might be heavy losses to the dairy farmer and considerable reduction in the milk supply of the country.

A good discussion followed, and was taken part in by Dr. Fremantle (Medical Officer Herefordshire C.C.), Mr. A. H. Archer, of Southsea; Mr. G. P. Male, of Reading; Dr. G. H. Garratt, of Cheltenham; Mr. J. A. Dixon, of Leeds; Mr. J. Dunstan, of Liskeard; and myself.

It was generally agreed that a Bill of this kind was very much wanted. One speaker advocated a national service under national regulations, which alone would give inspectors scope and freedom, and thus attract the best men to the work. Another speaker did not know whether the Tuberculous Order and the Milk and Dairies Bill would work as smoothly together as had been anticipated. He was afraid there might be some over-lapping, and he was of opinion that it would be better if the veterinary inspector under the Tuberculosis Order was also the inspector under the Milk and Dairies Bill. Another speaker said there appeared to be great trepidation in the minds of some people that there was going to be a good deal of friction between the medical officer of health and the veterinary officer, but, personally, he did not see why this should be, if each stuck to his own sphere of work. Nobody would deny that the medical officer should give the final word as to what was fit for the food of man. Another described many cowsheds as "holes of filth." He had no sympathy with those who thought the farmer ought to be compensated on a more liberal scale. He said a man who sold milk from a diseased cow ought not to be rewarded, he ought to get six months instead.

Mr. W. P. STABLEFORTH, F.R.C.V.S., dealt with the subject of "Bovine Tuberculosis." The paper was a highly instructive one, and a discussion followed in which Mr. Bond, Plymouth; Dr. Kerr, Dr. Gamlyn,

Mr. Mole, Mr. Glover, and others took part. Mr. Stableforth expressed disappointment with the discussion, saying it scarcely justified the trouble he had taken in getting up the paper.

Mr. A. H. ARCHER, M.R.C.V.S., read a paper on "The Transmission of Diseases by Animals to Man." He said in the case of domestic, wilful disregard of consequences and gross indifference to the effects produced on their fellow creatures, must be added to the causes operating in the conveyance of diseases from animals to man, or from one human being to another through the medium of an animal. A discussion followed, in which Dr. Garratt, Dr. Webb, Mr. Dixon, Dr. Hay, Dr. Hill, Dr. Barlow, and Mr. Ascott took part.

Dr. HERBERT PECK, of Chesterfield, was to have read a paper on the "Need for Public Abattoirs," but in his absence through ill-health a synopsis of it was given by Dr. Herbert Jones.

In his paper the author directed attention to some well known objections to private slaughterhouses—the main one being the difficulties of inspection. The discussion which followed urged the extreme desirability of public abattoirs, but mentioned some of the difficulties in the way; for instance, compensation to be paid to landlords and tenants of private slaughterhouses and the cost thrown on the rates.

Dr. JONES, in replying to the discussion, said if there was one question which should be treated nationally it was this question of slaughterhouses. The first thing he President of the Local Government Board would have to do was to see that in rural districts slaughterhouses were regulated. The laws with regard to slaughterhouses should be the same all over the country; they must treat it absolutely as a national question.

The PRESIDENT said he should like to have seen some practical suggestion from the Congress which might have been forwarded to Mr. John Burns.

The following resolution was adopted *nem. con.*:—"That the Council of the Royal Sanitary Institute be recommended to bring under the notice of the proper authorities the opinion of this Congress that all private slaughterhouses should be abolished, and that a public abattoir should be established in every sanitary district, or in the case of small districts, in groups of sanitary districts, and that all meat should be inspected on behalf of the local sanitary authorities."

The resolution was carried unanimously, and with this the business of the Conference closed.

In the evening the Mayor and Mayoress gave a conversazione in the University College, which was a brilliant function. The inclement weather prevented the guests from strolling in the grounds adjacent, as originally arranged, but they found plenty to interest them in the various exhibits at the College. They inspected the City Charters, the various Seals, and the City regalia, as well as many other attractions.

The business of the Congress was associated with many delightfully intimate and admirably managed excursions and garden parties, all of which were well attended and thoroughly enjoyed.

I cannot, however, conclude my report without a special reference to the kindly reception given to your delegate by the profession in the South-West of England. After the close of the Veterinary Conference, Mr. Male, of Reading, and myself, were entertained to luncheon. Prof. Penberthy again presided, and after we did full justice to the good things that were laid before us, an extremely pleasant time was spent in moments of mirth regulated by the dial of reason.

Mr. W. R. DAVIS said all would admit that Mr. McIntosh had presented an excellent report of what took place, and he proposed a hearty vote of thanks to him for it.

Mr. PRICE seconded, and it was carried.

Date of next meeting. The HON. SEC. proposed that as the ordinary date of next meeting would fall on New Year's Day, the meeting be held a week later, namely, on Jan. 8th.

Mr. PRICE seconded, and it was agreed to.

THE "HUNTING" MEMORIAL.

The PRESIDENT said he anticipated that Prof. Macqueen or Mr. Henry Gray would have been present to give the meeting some further details about the Hunting Memorial; but he would simply remind members of it, and ask them to subscribe to it.

PARASITES OF DOMESTICATED ANIMALS WHICH INFECT MAN.

By R. T. LEIPER, D.SC., M.B., F.Z.S., Helminthologist to the London School of Tropical Medicine.

When I had the privilege of being present at the meeting of the National Veterinary Medical Association at Carnarvon three years ago, I was much impressed by the fact that nearly all the papers gave rise to eager and sustained discussions. Now, discussions form the most useful part of a scientific society's activity, and it is a source of regret to me that the subject which I present to you to-night is not likely to promote much debate as I confine myself for the most part to explanatory remarks upon the specimens which I have brought to demonstrate.

Prof. Wooldridge, in his presidential remarks, referred to the many interests which the veterinary medical and the medical professions had in common, and I trust it may interest you to learn from my demonstrations how true this is of study of the helminthes or parasitic worms.

My series of parasites of domesticated animals which are known to infect men in various parts of the world comprises twenty-eight species. Some of these forms merely occur in men accidentally or occasionally, and give rise to no special symptoms, others can and do produce active and serious disease. Now to the medical man, and especially to the sanitarian and medical officer of health it is of importance to be able to recognise parasites peculiar to man from those which occur in the domesticated animals, because the measures which would assure the control or elimination of disease in the one case would prove quite ineffectual in the other.

The contrast can be well illustrated by reference to the two diseases known as Ankylostomiasis and Asiatic schistosomiasis. In the former the parasite is peculiar to man, it is spread by the discharge of the worm's eggs in the fæces whence the embryos again infect man through the skin. By a proper disposal of the stools the life-cycle can be broken and the disease gradually got under control. In Asiatic schistosomiasis the eggs similarly pass out in the fæces and infection of man takes place by the skin. But the most stringent measures regarding the disposal of human fæces would not bring about the elimination of the disease from infected areas, for it has been shown that in addition to man, dogs, cats, and cattle in these infected areas also suffer from the disease, and would continue to propagate it. The parasite of Asiatic schistosomiasis when first found in man was named *Schistosoma cattoi*; about the same time the parasite in the disease in cats was named *Schistosoma japonicum*, and it was only later that the two forms were found to be identical, and thus the significance of the dysenteric symptoms in cats and dogs recognised by the medical profession.

I have quoted these two diseases, one an acute anæmia, the other an intractable dysentery to support my contention that the study of the entozoa of man must embrace a knowledge of the entozoa of domesticated animals if the information arrived at is to be of

practical value to the sanitarian. My *rôle* this evening, however, is that of a naturalist not that of a pathologist or clinician. Of the various forms I shall show, little will be said of their actual significance in the production of disease. A number of my specimens may be better known to some of you than to me. If, then, you find me speaking with an innocent earnestness which amuses you at times you will kindly remember that I am in a position similar to that of the manager of a large works in the West of Scotland whose pride it was to take visitors over the works and explain the various contrivances. On one occasion he had explained with much simplicity the mechanism and uses of certain of his electrical apparatus to a visitor who accompanied one of the directors, he was asked "and what is electricity?" to which he replied, "that you must ask Lord Kelvin." He learned afterwards that his questioner had been Lord Kelvin himself.

I shall now proceed to show the various parasites in their systematic relationships, dealing first with Nematodes, secondly with the Trematodes, and finally with the Cestodes. The majority are smallish forms, and are best seen with the microscope. The microscope has one drawback, that only one person can see the specimen at a time, but I have been fortunate in overcoming this difficulty through the courtesy of Messrs. Leitz, who have enable me to show you my microscopical preparations by means of a microscope specially designed by them, and known as the *Edinger projection* microscope, which is used either for drawing or for projecting views of actual microscopical slides upon a screen in the same way as an ordinary lantern.

Three of the nematodes are so large, however, that they can best be seen with the naked eye. (1) *Eustrongylus gigas* is a large round worm about a foot in length, as thick as one's littlefinger, and when fresh, of a blood-red colour. It has been found very occasionally in man and occurs normally in the dog. The specimen shown was removed from the kidney if a wild dog from South America, where this parasite would appear to be not uncommon. It lives in the hilum of the kidney, and so disorganises this organ by its presence and growth that, as shown, the kidney eventually becomes merely a thick walled bladder.

(2) *Gigantorhynchus gigas* is also a large thick worm which lives normally in the small intestine, to the wall of which it is firmly attached by the head or rostellum bearing large chitinous hooks. This parasite is a very common one in pigs, and especially in my experience in the pigs in China. It must sometimes be fatal, for I have seen a number of cases similar to the one now exhibited, in which the hook bearing head and anterior part of the body have actually pierced the gut wall, and have been found hanging into the peritoneal cavity. In such cases peritonitis must surely result. No specimens of the adults from man have as yet come into my possession, though several cases are recorded. I have twice diagnosed infections in Chinamen from the discovery of the characteristic wrinkled egg containing the embryo with hooks at one end, in fæces sent for report.

(3) *Echinorhynchus moniliformis.* A smaller form than the previous acanthocephala has been found in man by me in the Sudan. It is a very common parasite in the intestines of rats throughout the tropics, and has as intermediate host the cockroach. The encysted forms are found in the so-called "fat body." As cockroaches are likely eventually to cease entirely to figure in the diet of man we do not need to concern ourselves greatly regarding the spread of this form.

The ankylostomes form a family of small round worms, which give rise to severe and even fatal anæmia when present in numbers. In the tropics, man and dogs and cats suffer severely from its ravages. The species which produce the disease in man, viz., (4) *A. duodenale* is not exactly the same species as that, viz., (5) *A. caninum* which infest dogs and cats. Quite recently however, Lane, in India, has found a third species (6) *A ceylanicum* to live in man and cats and dogs.

The ankylostomes afford a very striking example of the manner in which information derived from a study of the parasites of domesticated animals, may supplement or supply valuable information regarding allied parasites in man which could not otherwise have become available owing to experimental difficulties.

In many parts of the tropics, especially in the southern States of the United States of America, and in the tea and rubber plantations of the East, a profound anæmia, due to these ankylostomes, renders the labour problem a constant anxiety and expense. For many years it was thought that infection took place through contamination of food and drink, but Professor Looss, by experiments upon himself and upon dogs has succeeded in establishing that infection in many cases takes place through the skin, from which it follows that protection of the feet of the coolies, by footgear or by tarring, affords a simple means of protection.

I am fortunate in possessing a set of preparations made by Professor Looss himself, which illustrates in a remarkable fashion the various steps of infection of the skin, and the route by which the young embryos pass thence to the intestines. These I now show on the screen. After the eggs, passed in the fæces, have lain outside the body for some hours, and have had access to moisture and oxygen, there developes an embryo which ruptures the shell and then feeds voraciously upon the fæcal matter. It grows considerably, and after a few days sheds a sheath, then undergoes metamorphosis, and now makes its way out of the fæces to lie in wait in some moist place, may be for weeks, until it comes in contact with the skin or is swallowed. In this waiting stage we find a second skin has formed, which helps to protect it from dessication. When these sheathed forms come into contact with skin, the warmth causes the little worm to become very active, and the worm punctures the skin, leaving the sheath behind, and enters the fine blood vessels. The section shown illustrates this at various stages. We have worms just half through the cutis, we have others deep in the sweat glands, others, again, in the connective tissue, finally some are seen in the small veins. We now can trace them in our sections as follows: they pass in the venous blood to the right heart, thence to the lungs. Here they break out into the air vesicles, and we see them now free in numbers. Thence they pass up the bronchi in the mucus, up the trachea, and are swallowed, thus reaching the stomach, and finally intestine, where they become adult.

For a long time this extraordinary story was not believed. When Looss had demonstrated it, by means of such preparations as these, it was suggested, particularly by Sambon, that the forms passing up from the lungs were being eliminated, *i.e.* were side-tracked. Recently, however, Professor Fülleborn, of Hamburg, has demonstrated that this route is a normal one by a series of experiments in which the trachea was cut across, and the upper portion blocked. The worms were thus eliminated from the lungs and were not swallowed. Infection of the dogs did not follow, although the controls showed signs of heavy infection after the application of fewer embryos to the skin. The "lung" forms were similarly eliminated in another series of experiments by the sectioning of the œsophagus. In these dogs also, infection did not result, although the young worms poured from the upper end of the cut œsophagus. Thus it followed that the forms passing through the lung were the actual infecting forms. Professor Looss and others have applied the meta-

morphosed young to their own skin, and have succeeded in infecting themselves in this manner.

Before we leave the Nematodes, I must refer to the occasional occurrence in man of (7) *Toxascaris canis*, (8) *Belascaris mystax*, and (9) *Gnathostoma spinigerum*, parasites that are found in cats and dogs, the former in this country and practically universally, the last named in India and Siam, and (10) *Trichostrongylus instabilis* of sheep

The guinea-worm (11) *Dracunculus medinensis*, which occurs sometimes in dogs, and very rarely in other domesticated animals, is probably an accidental infection in them of a parasite normally limited to man.

Turning now to the Trematodes. We have occasionally in man the common liver fluke (1) *Fasciola hepatica* which you all know quite well, and another sheep liver fluke which is met with only in the tropics, and, as now shown, is characterised by its long ribbon-like body (2) *Fasciola augusta*. There are also differences in the gut which distinguish this form from *F. hepatica*. While the normal habitat of these flukes is the bile ducts, it is interesting that in man they may wander about in the tissues, and even burst through the skin in abscesses. There is in the Hunterian Museum a pretty preparation of a young Fasciola hepatica, removed from behind a man's ear, and I have heard of specimens of F. augusta discharging in abscesses on the legs. Another liver fluke of sheep (3) the distoma lanceolatum or *Dicrocoelium lanceatum* has also been recorded in man, while in a recent letter Dr. J. Bell, of Hong Kong, informs me that he has once seen specimens of (4) *Eurytrema pancreaticum*, which in enormous numbers almost occludes the pancreatic duct of cattle in China. It appears to be limited in its distribution to the far East. We pass now from the parasites of herbivores to those of carnivores. The cat and dog each provide a species of *Opisthorchis*:—(5) *Opisthorchis felineus* common in cats in Eastern Europe is recognised as the same species as Opisthorchis sibiricum, which is said to be present in 4 per cent. of persons examined at Tomsk, in Siberia; while (6) *Opisthorchis noverca*, which infects 25 per cent. of the dogs in Lahore, has also been found in a few Mahomedans in India.

In Asia in the cat, dog, and pig, an extraordinary pea-like fluke inhabits the tissues of the lungs. It is believed to be identical with the (7) *Paragonimus westermanii*, which in certain districts of China, Formosa, Corea, and Japan give rise in man to a chronic cough, a rusty sputum, and clinical signs resembling consumption. This disease is recognised by the finding of the large brown eggs of the fluke in the sputum. A piece of lung showing the little parasites in pairs in the tumours, and a slide illustrating the eggs in the sputum are now shown.

Another common parasite of man in the far East is (8) *Clonorchis sinensis*, and this also is found quite frequently in the dog, cat, and pig. It is like the Opisthorchis noverca, but the testes are branched instead of being lobed. It lives in the bile ducts, and is contracted from eating infected fresh water fish.

We all know what a gross feeder the Chinese pig is said to be, and this view obtains additional support from the number of important parasites it is found to harbour. The pig shares with man a fluke called (9) *Fasciolopsis buski*, which measures 2 to 3 inches in length, and ½ to 1 inch in breadth. This form again is limited to the far East.

Before leaving the Distomes or Fasciolidæ we have to mention two tiny flukes that have only come into prominence during the past six months. These are (10) *Yokogawa yokogawa* and (11) *Heterophyes heterophyes*. They are widespread in China, Formosa, Japan, and Corea, and when present occur in very large numbers. The mature specimens of the former are not more than 1 mm. in length, and the latter range up to 2 mm. They live in the small intestine.

Yokogawa is remarkable in that the ventral sucker is replaced by a muscular ring around the genital pore, while *Heterophyes* is characterised by an armature of antler-like spines surrounding the genital pore, which resembles and lies alongside the large well-developed ventral sucker. In four patients from China and Japan I recently found numbers of this latter fluke, and at a post-mortem in one case collected no less than 4,000 worms. These are now shown, as also a specimen from a dog in Formosa.

Turning now to the Amphistomes, which are represented in the Herbivores especially by a large number of species, we have to notice only one form, viz., (12) *Gastrodiscoides hominis*. This parasite is often found in the intestines of man in Eastern India, and for a long time it was wrongly supposed that it was a normal parasite of the horse. From the specimen of Gastrodiscus sonsinoi shown it is obvious that two important anatomical features differentiate these two forms (*a*) in G. hominis the genital pore is on the anterior cone-like neck; in G. sonsinoi it is on the ventral disc; (*b*) in G. hominis the surface of the disc is smooth; in G. sonsinoi it is studded with papillæ. A second species viz., G. secundus has been found in the horse, but it retains the same differential characters.

Quite recently *G. hominis* has been found in 5 per cent. of the pigs in Indo-China, so we have to blame the pig once more for acting as a carrier of parasites inimical to man.

The Schistosomidæ, like the Amphistomidæ, contribute one species which infects equally man and domesticated animals. (13) *Schistosoma japonicum* lives in the venous, and especially portal system of man, dogs, cats, and cattle. The symptoms, which takes the form of an intractable dysentery, are due to the erosion of the mucous membrane of the intestine caused by the hard eggs of the worm which slowly work their way through the tissues from the vessels in which they are laid, to the lumen of the gut.

The Schistosomes, or Bilharzia worms, form a very small section of the parasitic worms of man, but by their wide distribution and the serious and often permanent invaliding they entail, they would suffice alone to place the study of Helminthology in the minimum curriculum of tropical sanitation.

As regards the life history of these various flukes it may be said that much remains unknown, but what we do know points to the conclusion that the development of the various species follows essentially along those lines so admirably elucidated by Thomas in the case of the liver fluke.

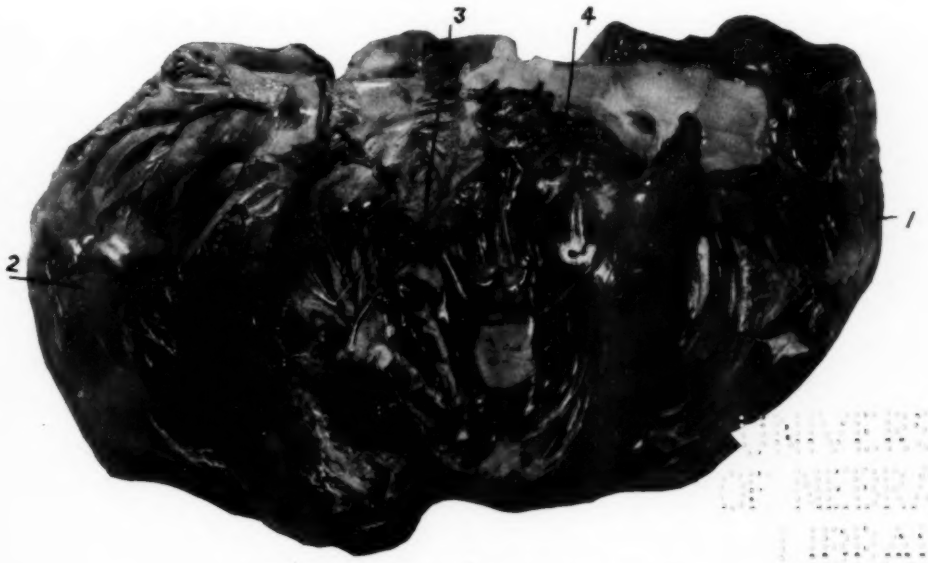
The differences that will be found will probably lie in the manner in which the final or cercarial stage eventually reaches the body of the final host. Thus in *F. hepatica* the cercaria encysts free upon grass, and is then swallowed, while in *Yokogawa* and in *Opisthorchis* the cercaria encyst in the flesh of edible fresh water fish.

Of cestodes we have two important and several accidental infections to which reference must be made. The important forms in my opinion are those which may develop their cystic or larval stage in the tissues of man, and so leading to grave functional disorders. You probably know too well the gross changes that result from the development of hydatids. These changes occur in man also and have not infrequently a fatal issue.

You know, too, the significance of Cysticercus cellulosæ in pork as the origin of the tapeworm Tænia solium, of C. bovis in cattle as the early stage of Tænia saginata, and of the plerocercoid of fish which becomes the Dibothriocephalus latus. I refer to them all merely to direct your attention to this one point that the infection of a man with Tænia solium may have a much more sinister

PSAMMOMA.

Note by Capt. B. A. Jarvis, A.V.C.



ACUTE ENDOCARDITIS IN A HORSE.

Reported by W. H. Wilkinson, M.R.C.V.S., & Prof. J. F. Craig, M.R C.V.S, Dublin

effect than the vague anæmia and mental disturbance which follow upon infection with an adult tapeworm such as T. saginata (=T. mediocanellata) or Bothriocephalus latus. Man can function for Tænia solium as intermediate host as well as final or definite host. That is, he can directly infect himself with cysts by the contamination of food with cestode eggs from his own fæces. It happens that these cysts not only develop in his muscles but not infrequently lodge in the brain and may cause by their growth an incurable insanity. It behoves the physician, therefore, to deal promptly and rigorously with an intestinal tapeworm of the species Tænia solium.

Of little practical importance are infections of man with *Dipylidium caninum* of the cat and dog, and with *Hymenolepis nana* and *Hymenolepis diminuta* of rats and mice. The interest lies in the fact that fleas are the intermediate hosts, and as these species are commonly found amongst children it is legitimate to suppose that infection takes place through the drowning of the fleas in fluid food such as milk, etc.

I conclude my demonstration by showing sections of the brain, lungs, and heart of a man who died in Hamburg from a somatic infection with a larval tapeworm probably *Sparganum prolifer*. This larval form is peculiar in that it continues to grow and gives off branches so that in this case the whole body seemed literally writhing with a hydra-like tapeworm. We do not know the adult form of these *sparganum* worms, but they are related apparently to the Bothriocephalus group. Recently the species or a closely allied form has been detected in the pig, and it is to be hoped that we may have here a means of ascertaining in the future the significance and origin of these extraordinary vegetative parasites.

The PRESIDENT said he was sure all the members would feel much indebted to Dr. Leiper for the admirable address, and his wonderful exhibition of specimens. He felt sure Dr. Leiper would not expect the Society to discuss the matter in the usual way, especially as the collection was practically unique. It was particularly instructive to see the ankylostomes actually in the skin and lung tissues finding their way to their predilection seats. He believed he recognised one specimen—eustrongylus gigas—as from one of his own patients which came from the kidney of a carnivore at the Zoo. [Dr. Leiper: Yes]. He had not diagnosed it during life. The meeting would no doubt have been interested to see a specimen of trichinosis if the lecturer could have shown one. He could not sufficiently express his own gratification for the splendid demonstration.

Dr. LEIPER: The specimen of *Eustrongylus gigas* shown was, as the President supposed, derived from a dog which had died in the Zoological Gardens. A number of forms of which I had not time to deal have, perforce, been passed over. Trichina spiralis seemed so familiar, and as I had nothing new to say about it I passed it over. I may mention, however, that I had hoped to show you the adult forms, but was unable to make in time sufficiently satisfactory preparations for exhibit.

To the query regarding the infection of sheep between the winter frosts and the commencing summer, I may say that I have no specific information. If I may generalise somewhat, however, I might add that it is

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.				Foot-and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks		Animals										
	Con-firm'd	Re-ported	Con-firm'd	Re-ported	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Out-breaks.	Slaugh-tered. *
GT. BRITAIN. Week ended Dec. 20	15		15		1	50	5	9	45	79	26	59	1127
Corresponding week in 1912	7		10				1	1	80	183	16	45	704
Corresponding week in 1911	16		17				1	5			16	46	600
Corresponding week in 1910		32		36			3	5			30	38	520
Total for 51 weeks, 1913	575		629		2	73	155	407	2334	4560	224	2520	31687
Corresponding period in 1912	729		826		83	645	171	310	2828	5965	294	2888	39220
Corresponding period in 1911	886		1095		19	487	206	499			408	2427	29814
Corresponding period in 1910		1435		1704	2	15	340	995			479	1527	14667

† Counties affected, animals attacked: London 7, Middlesex 1, Surrey 1.

Board of Agriculture and Fisheries, Dec. 23, 1913.

IRELAND. Week ended Dec. 21	...	...	...	...	...	...	Outbreaks 1	24	1	17
Corresponding Week in 1912 ...	...	...	...	...	...	...	2	12	1	12
Corresponding Week in 1911 ...	...	...	...	...	...	...	2	9	3	64
Corresponding Week in 1910 ...	...	...	...	...	...	...	1	21	5	17
Total for 51 weeks, 1913 ...	...	...	...	...	1	1	113	534	133	885
Corresponding period in 1912 ...	3	3	68	382	...	...	66	370	212	1590
Corresponding period in 1911 ...	9	16	...	...	2	3	58	333	174	2563
Corresponding period in 1910 ...	7	13	...	...	1	2	65	456	95	2152

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 22, 1913

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

probable that a certain amount of infection might take place during the winter and spring (*a*) from encysted cercaria not destroyed, (*b*) from cercaria set free during the winter or spring from snails infected during the previous summer. Although cold always inhibits developmental processes, it does not necessarily destroy larval stages—they merely remain checked for the time being.

It is unlikely that fresh infections of each year are derived solely from eggs, and are not due in part to carrying over of redia and cercaria in the bodies of the snails. I did no experimental work bearing upon this particular point when I was following the development of F. hepatica in Limnasa truncatula.

After the Fellows had examined with great interest the specimens exhibited by Dr. Leiper,

The PRESIDENT formally proposed a very hearty vote of thanks to Dr. Leiper for his demonstration, and to Mr. Charlton (of Messrs. Leitz) for so kindly officiating at the Edriger apparatus, which so enormously added to the interest of the lecture.

Mr. S. SLOCOCK seconded, and it was carried with acclamation.

Dr. LEIPER and Mr. Charlton briefly acknowledged the vote of thanks, and said it had given them great pleasure to be there, and hoped they would have another opportunity sometime in the future.

A vote of thanks to the President terminated the proceedings.

HUGH A MACCORMACK Hon. Sec.

TENTH INTERNATIONAL VETERINARY CONGRESS, LONDON, AUG. 3—8, 1914.

In addition to the list of donations to the Organising Funds of the Congress which was dated November 22nd, and was published in *The Veterinary Record* of November 29th, I have received the following sums, either promised or paid.

My attention has been called to the following errors which appeared in my last list: Wharam, S., £15 paid should read £15 15s., and Over, R. and H., should read Alf. and R. H. Over. In my list published in *The Record* of May 3rd, 1913, Wartnaby, Geo., £5 5s. should read Wartnaby and Sadler, £5 5s.

I again appeal to all who have not yet sent a donation to kindly inform me at an early date of the sum they intend to give, by so doing they will greatly assist the Committee in the anxious work of making the Congress financially a success, and I now make a special request to all those who have promised a donation, to kindly assist me by forwarding it as soon as possible.

Those names marked with an * in the present list are donors other than veterinary surgeons.

FRANK W. GARNETT, Hon. Treas.

Dalegarth, Windermere.
27th December, 1913.

Paid. £ s. d.		Promised. £ s. d.	Promised. £ s. d.
1 1 0	Lindsay, J.		
1 1 0	Simpson, H. (Strait Settlements)	1 1 0	
1 11 6	Evans D.	1 11 6	
1 1 0	Stevens, W. S.	1 1 0	
2 2 0	Fowle, W.	2 2 0	
5 5 0	Reid, A. W.	5 5 0	
3 3 0	Holburn, A. (Lancashire V.S.)	3 3 0	
1 0 0	Furness, G. J.	1 0 0	
2 2 0	Sikes, C. W. B.	2 2 0	
3 0 0	Kehoe, D. (Pretoria)	3 0 0	
1 2 0	Webster, G. C. (Transvaal)	1 2 0	
7 6	Anonymous	7 6	
1 1 0	Bennett, J. H.	1 1 0	
1 1 0	Morgan, E.	1 1 0	
1 1 0	Brydon, R.	1 1 0	
1 1 0	Morgan, Chas.	1 1 0	
	Midwood, G. Norris*	5 5 0	
2 2 0	Lister, Sir Ashton*	2 2 0	
2 0 0	Nicholson, Sir Arthur*	2 0 0	
2 2 0	Weigall, Capt. A. G.*	2 2 0	
1 0 0	Caldwell, J.	1 0 0	
1 1 3	Edgar, A.	1 1 3	
5 0 0	Bridges, J. R.*	5 0 0	
1 0 0	Sanday, S.*	1 1 0	
1 1 0	Evans, G. J.	1 1 0	
1 1 0	Winkup, S. A.	1 1 0	
2 2 0	Dobbyn, A. J.	2 2 0	
1 1 0	Mahony, B. P. J.	1 1 0	
1 1 0	Godman, A. F.*	1 1 0	
1 1 0	Chambers, S.	1 1 0	
1 1 0	Bathurst, C.*	1 1 0	
2 2 0	Taylor, Hy.	2 2 0	
2 0 0	Patrick, W. C.	2 0 0	
2 2 0	Mitchell, G. M.	2 2 0	
1 1 0	Pickering, F.	1 1 0	
1 1 0	Balden, J.	1 1 0	
10 6	Bibby, H.	10 6	
10 10 0	Dollar, J. A. W.	10 10 0	
	Moody, J. F. B.	1 11 6	
1 1 0	Scott, Robt.	1 1 0	
2 2 0	Golding, G. H. Perry, E. M.	2 2 0	
1 1 0	Moore, Robt. (Glamorgan)	1 1 0	
10 6	Wright, W. R.	10 6	
10 6	M. C.	10 6	
1 1 0	Cattell, A. J.	1 1 0	
2 2 0	Magee, L. M. Hare, J. B. A.	2 2 0	
1 1 0	Rider, J. W.	1 1 0	
5 5 0	Caton, H. W.	5 5 0	
2 2 0	Kernohan R. Kernohan J.	2 2 0	
	Beddard, E.	2 2 0	
1 1 0	Forbes, J.	1 1 0	
1 0 0	Bell, J. (Catford)	1 0 0	
3 3 0	Caudwell, Wm.	3 3 0	
1 0 0	Lord Harris*	1 0 0	
10 0 0	Brassey, Albert*	10 0 0	
	Lord Crewe*	5 5 0	
2 2 0	Down, J. A.	2 2 0	
10 0 0	Bayley, F.	10 0 0	
5 0 0	Moore, W. J.	5 0 0	
1 1 0	Parkin, H. J.	1 1 0	
1 1 0	Boyd, W. J.	1 1 0	
5 0 0	Craik, Geo.	5 0 0	
1 1 0	Edwards, E. R. £1 1s. guaranteed	1 1 0	
1 1 0	Kidd, H.	1 1 0	
2 2 0	Hazelton, W. C.	4 4 0	
3 3 0	Shepherd, J. H.	3 3 0	
2 2 0	Burndred, E. J.	2 2 0	
2 2 0	Parsons, C. C.	2 2 0	
1 1 0	Millington, T. G.	1 1 0	
2 2 0	Adamson, D. Adamson, J.	2 2 0	
1 1 0	Aitken, J. jun.	1 1 0	
1 1 0	Barr, A. £1 1 guaranteed	1 1 0	
1 1 0	Barnard, L.	1 1 0	
10 6	Brown, James	10 6	
1 1 0	Burrell, T. Burrell, H.	1 1 0	
1 1 0	Delacherois, C. H.	1 1 0	
3 3 0	Lord Moreton *	3 3 0	
5 5 0	McCall, Prof. J.	5 5 0	
2 2 0	MacGregor, W. A.	2 2 0	
2 2 0	Paton, J. (Herts.)	2 2 0	
1 1 0	Stanley, E. T.	1 1 0	
2 2 0	Vincent, G. F.	2 2 0	

Paid. £ s. d.		Promised. £ s. d.	Promised. £ s. d.
1 1 0	Walker, J. (Alton)		1 1 0
10 6	Warburton, F. J.		10 6
25 0 0	Trigger, R. C.		
2 0 0	Robinson, R. C.	2 0 0	
10 0 0	Border Counties V.M.S.		
1 1 0	Darwell, A. E.	1 1 0	
20 0 0	Jewell, Chas. *	20 0 0	
1 1 0	Snaith, P.	1 1 0	
2 2 0	Edwards, J. W.	2 2 0	
	Woodruff, Prof. H.	5 0 0	
20 0 0	Transl. V.M.S. per J. M. Christy	20 0 0	
2 15 0	Post-Graduate Course R.V.C.	2 15 0	
3 3 0	Edmondson, W.	3 3 0	
1 1 0	Pratt, E. H.	1 1 0	
	Duffy, P.	1 0 0	
3 0 0	Williams, J. G. *	3 0 0	
10 6	Hicks, Herman *	10 6	
1 1 0	Parkin-Moore, W. *	1 1 0	
2 2 0	Hammond, J., jun.	2 2 0	
100 0 0	Cooper, the late Sir R. P.		
1 1 0	Jarvie, J.	1 1 0	
1 1 0	Wild A. C.	1 1 0	
1 1 0	Brogan, E. H. (Uganda)	1 1 0	
2 0 0	Leese, A. S. (Nairobi)	2 0 0	
2 2 0	Lord Ashton of Hyde *	2 2 0	
	Bate. Alf.	1 1 0	
5 5 0	S. Durham & N. Yorks. V S.	5 5 0	
1 1 0	Taylor, J. H.	1 1 0	
1 1 0	Cabot, D. A. E.	1 1 0	
2 2 0	Horner, A. J.	2 2 0	
3 3 0	Pack, C.	3 3 0	
3 3 0	West, E. A.	3 3 0	
	Cleveland, J.	1 1 0	
1 1 0	Reynolds, F. G.	1 1 0	
2 2 0	Lydford, T. R.	2 2 0	
2 2 0	Dunlop, D.	2 2 0	
1 1 0	Lindsay, P. T.	1 1 0	
1 1 0	Watchorn, F. W.	1 1 0	
1 1 0	Weighill, W. L.	1 1 0	
5 0	Beatie, P.	5 0	
5 0 0	Lord Northbrook *	5 0 0	
1 1 0	Hackett, Wm.	1 1 0	
3 3 0	King, H.	3 3 0	
10 0	Dunning, F. J. (Transvaal)	10 0	
	The Farmers' Club *	1 1 0	
	Archer A. H.	1 1 0	
3 3 0	Robb & Sons	3 3 0	
1 11 6	Roberts, H. K.	1 11 6	
10 10 0	Western Counties V.M.S.		
2 2 0	Wells, C. E.	2 2 0	
	National Pony Society *	5 5 0	
2 2 0	Keylock, H. E.	2 2 0	
1 0 0	White, J. B.	1 0 0	
1 1 0	Hunting, C. S.	1 1 0	
5 5 0	National Sheep Breeders Assoc.	5 5 0	
2 0 0	Sturgess, G. W. (Ceylon)	2 0 0	
5 5 0	Aubrey, Thos.	5 5 0	
1 1 0	Fleming, J. *	1 1 0	
1 1 0	Jordan, J. A.	1 1 0	
1 1 0	Hunt, T. M. C.	1 1 0	
2 0 0	Gair, G.	4 0 0	
250 0 0	Officers A.V.C.		
2 0 0	Hamilton, Alex.	2 0 0	
10 0 0	Parr, Geo.		
Central V.S. per H. A. MacCormack, Esq.:			
10 6	Taylor, F. J.	10 6	
1 1 0	Young, J. B.	1 1 0	
5 5 0	Thrale, R. A. } Thrale, P. R. A. }	5 5 0	
	Woodger, Jos., per Sir J. M'Fadyean	5 0 0	
1 1 0	Bayley, A. E. £1 1 gtd.	1 1 0	

Paid. £ s. d.		Promised. £ s. d.	Promised £ s. d
2 2 0	Garry, T. C.	2 2 0	
3 3 0	Woodger and Broad	3 3 0	
2 0 0	Buxton, J.	2 0 0	
2 0 0	Buxton, J. B.	2 0 0	
2 2 0	Perryman, W.		
5 5 0	Gosling, J. A.		
2 2 0	Catmull, E. J.		
10 6	Gorton, B.	10 6	
1 1 0	Gordon, G.		
			22 13 0
West of Scotland V.S. per G. W. Weir, Esq.:			
	Douglas, A.	1 1 0	
2 2 0	West of Scotland V.S.		
3 3 0	McCall, Prof. J. R.	3 3 0	
6 6 0	Douglas, T. A.		
3 3 0	Taylor, J. (Cathkin)	3 3 0	
6 6 0	Begg, H.	6 6 0	
1 1 0	Macfarlane, J.	1 1 0	
1 1 0	Weir, G. W.	1 1 0	
1 1 0	Mitchell, R., jun.	1 1 0	
1 1 0	Taylor, J. B. (Larkhall)	1 1 0	
1 1 0	Robertson, W.	1 1 0	
1 1 0	McDougall, Jas.	1 1 0	
1 1 0	McMurrich, W. S.	1 1 0	
1 1 0	Ferguson, W. N.	1 1 0	
1 1 0	McIntyre, Peter	1 1 0	
	Hamilton, T. B.	1 1 0	
	Brown, D.	1 1 0	
1 1 0	Roy, Wm.	1 1 0	
1 1 0	McLeod, D.	1 1 0	
	Baird, J.	1 1 0	
	McIntyre, Jas.	1 1 0	
			29 8 0
Midland Counties V.S. per H. J. Dawes, Esq.:			
1 0 0	Young, J.	1 0 0	
	Dale, W.	3 3 0	
2 2 0	Yeomans, H.	2 2 0	
	Parson, C. F.	3 3 0	
1 10 0	Thompson, W. G.	1 10 0	
10 0 0	Coe, W. H.	10 0 0	
1 1 0	Hutchinson, J. E.		
3 3 0	Deville, J. C.		
3 3 0	Duckworth, T. H. Prince, F. T.		
10 10 0	Malcolm, J.		
4 0 0	Tipper, L. C.		
3 3 0	Forsyth, A. B.		
3 3 0	Hobson, T. H.		
3 3 0	Ludlow, Thos.		
4 4 0	Barling, F. W.		
1 11 6	Wilson, Prof. W. T.		
15 0 0	Midland Count. V.M.S.		
3 3 0	DeVine, W. J. B.		
1 11 6	White, J. M.		
1 11 6	Thompson, W. N.		
3 3 0	Dale, W.		
3 3 0	Ison, W. E.		
2 2 0	Pemberton, H. L.		
1 1 0	Chambers, T.		
3 3 0	Smith, Geo.		
2 2 0	Brain, T. J.	2 2 0	
10 10 0	Marriott, S. J. Marriott, S. W.		
1 1 0	Blunson, W.		
3 3 0	Tart, W. J.		
2 2 0	O'Neill, E.		
1 1 0	Murray, R.		
3 3 0	Burchnall, J. J.		
5 5 0	Phillips, J. T.		
1 1 0	Heelis, L. W.		
1 1 0	Woodward, S. M.		

UMI

Paid. £ s. d.		Promised. £ s. d.	Promised. £ s. d.
3 3 0	Bainbridge, J.		
1 1 0	Thackeray, H. T.		
1 1 0	Hiles, H. B.		
3 3 0	Cockburn, R.		
2 0 0	Tipper, L. C.		
5 0 0	Over, A. / Over, R. H.		
1 1 0	Slipper, T.		
10 10 0	Brooke, W. H.		
1 1 0	Clunas, R.		
2 2 0	Gibbings, F. H.		
1 1 0	Brown, W. H.		
1 0 0	Woodcock, R. H.		
5 0 0	Brookes, W. T.		
6 6 0	Martin, J.		
10 10 0	Dawes, H. J. / Dawes, H. W.		
1 2 4	Interest	1 2 4	24 2 4
Lincolnshire V.M.S., per F. L. Gooch.			
1 1 0	Taylor, H. C.	1 1 0	
2 2 0	Willows, G. T.	2 2 0	
3 3 0	Lockwood		
3 3 0	Knowles, R. W.		3 3 0
North of Scotland V.S., per G. Howie.			
1 1 0	N.S.V.M.S.		
10 6	Cumming, D.		
10 6	Crabb, D., Sen.		
10 6	Crabb, D., Jun.		
10 6	Hepburn, Wm.		
10 6	Howie, Geo.		
10 6	Kerr, A.		
10 6	Marshall, W.		
1 11 6	Niven, A.	1 11 6	
1 1 0	McVean, H.		
10 6	Sievwright, A.		
1 1 0	Laing, W.	1 11 6	
1 1 0	Skinner, W.	1 11 6	
1 1 0	Beatie, J.	1 11 6	6 6 0
			£414 2 7

Slaughter of Calves.

At a meeting of the Council of the Central and Associated Chambers of Agriculture, following the annual meeting, the report from the Slaughter of Calves Committee was read. It included the following:—

"Of the calves slaughtered when but a few days old, many no doubt would not have been worth rearing as stores. It is feared that in the neighbourhood of the large industrial towns many of the better bred calves are killed when only a few days old, which, if saved, would have proved useful beasts for feeding or dairy purposes.

Your Committee are of opinion that it is mainly a a question of supply and demand, and that legislative action is not to be recommended. Dairy farmers, with few exceptions, lack accommodation to rear their own calves, which have therefore to be sold at the first available market, and for the purpose for which they will fetch the highest price. Your Committee are informed that many of the calves slaughtered at a very early age are bought at low prices owing to a temporary shortness of milk, or to other causes resulting in local demand for calves being poor at the time; and they feel that many difficulties and hardships would arise from any attempt to curtail the free sale of calves of any age.

On the other hand, they are of opinion that in other districts a difficulty is being experienced in getting a sufficient number of calves for rearing purposes.

They recommend the following suggestions for the consideration of the Associated Chambers and stock farmers generally:—

(*a*) That good bulls only should be used.

(*b*) That a register should be kept of all dairy cows and their produce, the latter to be ear-marked for future identification.

(*c*) That means should be organised for bringing the rearers—and especially those in non-dairy districts—into touch with the dairy farmers, so that the former might be enabled to buy calves from good class cows, the heifers of which they could sell again as "down-calvers." Your Committee believe that such transactions would prove mutually satisfactory to the rearer and the dairy farmer, the former being assured of a good market for his "down-calvers," and the dairy farmer—besides having an incentive (which he has not at present) to breed good stock—being enabled to fill his byres with cows which he knows have been bred from good milk producers.

Your Committee are of opinion that some such steps as are here suggested, will prove necessary if the quality and quantity of the dairy cows in the country are to be maintained."

Mr. W. A. Haviland (Chairman of the Committee) proposed the adoption of the report, and that it should be sent down to the various local Chambers for discussion.

This was agreed to without discussion. The subject will come up again for consideration at the next meeting, to be held on Feb. 3rd.

The Sale of Milk.

The report of the prevention of Fraud Committee, presented at the meeting of the Council of the Central and Associated Chambers of Agriculture on Dec. 10th, draws attention to the Sale of Food and Drugs Bill (No. 309), introduced by the President of the Local Government Board on August 6th last, and recommends that it be strenuously opposed on the ground that it will enable the Local Government Board to make regulations in the supposed interest of the consumer which would entirely alter the Sale of Food and Drugs Acts in a manner disastrous to important branches of agriculture. In the case of Milk, for instance, if the Bill becomes law the Board may make a regulation defining milk as a fluid containing, *inter alia*, 3 per cent. of butter-fat. The seller of genuine milk will then be liable to a penalty of £20 every time he sells milk which happens to contain less than 3 per cent. of fat, and it will be no defence to prove that the milk is genuine. If the Board decide to fix the limit at 3·25 per cent. of butter-fat, or even higher, there is nothing in the Bill to prevent them doing so. Such a regulation would be contrary to the principle for which the farmers of Great Britain have been contending for many years past—that milk which is of poor quality as regards butter-fat, but still is as it comes from a healthy cow—shall not be treated as adulterated. It would displace the Sale of Milk Regulations, 1901, issued by the Board of Agriculture, and undo all the efforts made by the chambers and agriculturists generally to induce local authorities to work under the Sale of Food and Drugs Acts and the Milk Regulations, with the object of preventing adulteration, instead of using these Acts to prevent the sale of milk of poor quality.

Under the Bill the Board may also define butter as an article containing not more than 16 per cent. of moisture. Under the existing law farmers' butter containing more than 16 per cent. (as it often does) is presumed to be adulterated, but he still has the chance of contesting the presumption by showing that he used proper precautions to prevent an excess of water in his butter. The fact that a farmer has this defence prevents officials

of local authorities from instituting proceedings recklessly in cases of excess water in farmers' butter. Under such a regulation as it is open for the Local Government Board to make, the farmers will have no such opportunity. Such a regulation would also annul many provisions of the Butter Act, 1907, which were purposely introduced into that Act in order that a proper distinction might be maintained as regards excess of water between factory and farmhouse butter. This Bill now proposes to give power to a Government department to do by regulation what Parliament has refused to do by legislation.—*Farm and Home.*

Hunting Memorial Fund.

Subscriptions received up to 7 p.m., Dec. 31st, 1913:

	£	s.	d.
Amount previously acknowledged	120	17	6
Mr. P. J. Howard, Ennis	1	1	0
Major H. J. Axe, A.V.C., Southernhay, Exeter	1	1	0
Mr. H. C. Wilkie, (F), F.Z.S., Paris	1	1	0
H. W. Caton, (F), Mile End Rd., E.	1	1	0
Archibald Renfrew, Broadway, Worc.	1	1	0
G. H. Locke, Manchester	1	1	0
Maj. F. Ulysses Carr, A.V.C., Khartoum, Sudan	2	2	0
Mr. A. Holman Berry, (F), Board of Agric.	1	1	0
Capt. T. Lishman, A.V.C., Aldershot		10	6
Mr. Guy Sutton, (F), Kensington	1	1	0
J. W. McIntosh, F.R.S.E., Hay's Wharf, S.E.	1	1	0
Wm. Woods, (F), Wigan	2	2	0
Trevor F. Spencer, Kettering	1	1	0
Henry Sumner, Senr., Liverpool	1	1	0
James Sumner, "	1	1	0
Henry Sumner, Junr. "	1	1	0
	£139	5	0

A meeting of the General Committee of the Hunting Fund will be held on Friday, January 9th, 1914, at 6.30 p.m., at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C.

HENRY GRAY, Hon. Sec. & Treas.
23 Upper Phillimore Place, London, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London, City and Midland Bank, Ltd.

Banquet to Mr. T. D. Young, M.R.C.V.S.

The banquet offered by Dr. Suarez, Director-General of Live Stock, to Mr. Dunlop Young, Chief of the Veterinary Inspection Department of the London Corporation, on the occasion of his return to England, after making a tour of inspection of the cold storages and breeding establishments of the Republic, took place at the Savoy Hotel, Buenos Ayres, on 20th November.

In his observations at the dinner, Dr. Suarez said the Ministry of Agriculture, wishing to prove its strong belief in the application and constant improvement of the sanitary regulations in meat factories, decided to submit their practice to the examination and criticism of the chief entrusted with the duty to inspect and to decide as to the admission or rejection of these products on the London Central Markets. That was the origin and the reason for the invitation to Mr. Dunlop Young to visit the country and to investigate, with full liberty of criticising in every detail, the method in which meat intended for export was prepared. The Minister of Agriculture wished that he should have the greatest facilities for travelling in the country, so that he might be able to see the stock breeding industry in its real surroundings, and then frankly tell us afterwards what good and faulty points he found, so as to persist in the former and correct the latter.

The Director of Cattle Breeding concluded:—"In the name of the Minister of Agriculture I thank you for your visit and wish you, also in the name of the joint representatives of the cattle breeding industry and trade, who are present here, and of the staff of the General Direction of Cattle Breeding, a happy return and a pleasant recollection of this country, where you leave enduring sympathy.

Mr. Young, in thanking the assembled company for the hospitable demonstration, said that during his visit he endeavoured to fulfil the duties entrusted to him, in an efficient yet impartial manner. He was afraid, however, he had forgotten to make a study of an "after dinner" speech. Personally, he should prefer to spend another day in a refrigerator rather than make a speech, nevertheless, it would be ungracious not to reply to the eloquent speech of Dr. Suarez. It was clear to all the parties interested that the Argentine Ministry of Agriculture had nothing to hide." This was not the time or place for referring to his report, but he could echo truthfully the words of Dr. Suarez when he said that the Ministry might await the report without anxiety. From the moment of his arrival, and during his investigation, he was strongly impressed by the frank manner in which he was allowed to see everything, not only by officials of the Ministry, but by the managers of cold stores and their assistants. Referring to the action of the London delegate of the Ministry of Agriculture, Dr. del Castillo, Mr. Young said that he had greatly helped to smooth away many difficulties. He was in their markets or at their ports, and saw what was rejected; he reported to his Ministry, and immediately correction followed. He might add that Dr. Howarth, Chief of the Public Health Department of the City of London, and Dr. Williams, Chief of the Port of London Inspection, were of the same opinion as himself, namely, that Dr. del Castillo was "the right man in the right place." (Applause.) Coming back to the question of meat inspection, he wished to say that the Ministry of Agriculture, and its inspectors had duties of great responsibility, and they were doing everything possible to convince the people of Great Britain that they intended discharging them conscientiously. The magnitude of their work was enormous, and would be appreciated when he told them that during last year Argentina exported about 70 per cent. of the whole meat imported into Great Britain. It was the earnest wish of the Corporation of the City of London and of its members to keep going the Argentine meat industry, to deal justly by the producers, and to have harmonious relations with all interested, and, as good friends, to take into account any fault when it was pointed out by either of the two parties. He had not time to visit properly their wonderful and extensive country, but through the kindness of Mr. Duggan he had visited one of the large estates, and seen their thousands of cattle grazing on thousands of acres of the most excellent pastoral land in the world. If he might offer a suggestion, he would advise every estate owner not to slaughter any cows or female calves, because, in his opinion, there would in future be a large demand for meat; prices will have a rising tendency rather than falling, at least for a certain number of years. Mr. Young, in conclusion, thanked the Government for its cordial and practical co-operation, and the cold storage firms for the way in which they had facilitated his task, and also for the hospitable and kindly demonstration offered to him—*Meat Trades' Journal*, ex *La Prensa.*

It was reported to the last meeting of the Mansfield Town Council that recently two horses had been slaughtered and sold in the town as prime English beef. The Health Committee undertook to investigate the matter.—*M.T.J.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders† (including Farcy) Outbreaks	Glanders† (including Farcy) Animals.	Parasitic Mange. Outbreaks	Parasitic Mange. Animals.	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Dec. 27		19		23				7	40	39	64	12	53	347
Corresponding week in	1912	14		14				1	5	45	103	7	32	433
	1911	22		28				3	5			26	39	620
	1910		30		31			6	13			35	34	456
Total for 52 weeks, 1913		594		652		2	73	162	447	2373	4624	236	2573	32034
Corresponding period in	1912	743		840		83	645	172	315	2873	6068	301	2920	39653
	1911	908		1123		19	487	209	504			434	2466	30434
	1910		1465		1735	2	15	346	1008			514	1561	15123

† Counties affected, animals attacked: London 40.

Board of Agriculture and Fisheries, Dec. 30, 1913.

IRELAND. Week ended Dec. 27	...	...	...	...	...	...	Outbreaks ...	18	...	...
Corresponding Week in 1912 ...	...	...	...	...	...	...	...	3	...	16
Corresponding Week in 1911 ...	...	...	...	...	...	...	2	9	1	5
Corresponding Week in 1910 ...	...	...	...	...	...	...	...	11	1	74
Total for 52 weeks, 1913 ...	...	...	...	...	...	...	113	552	133	885
Corresponding period in 1912 ...	3	3	68	382	...	...	66	373	212	1706
Corresponding period in 1911 ...	9	16	...	...	...	...	60	342	175	2568
Corresponding period in 1910 ...	7	13	...	...	...	...	65	467	96	2226

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 30, 1913

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

ARMY VETERINARY SERVICE.

Extract from *London Gazette.*

WAR OFFICE, WHITEHALL, Dec. 23.

SPECIAL RESERVE OF OFFICERS.

ARMY VETERINARY CORPS.

The following Lieuts. (on probation) are confirmed in their rank :—

F. Roche and C. S. Stewart.

THE NEW YEAR'S HONOURS.

His Majesty has been pleased to direct that the following be sworn of His Majesty's Most Honourable Privy Council in Ireland :—

Sir CHRISTOPHER NIXON, BT.

Sir Christopher Nixon is a distinguished Irish physician. Educated at Beaumont and Trinity College, Dublin, he is Professor of Medicine at the Catholic University. He was the first President of the Royal Veterinary College of Ireland, which he took great interest in establishing. He was created a baronet in 1906.

COLONIAL OFFICE LIST.

ORDER OF SAINT MICHAEL AND ST. GEORGE.

The King has been pleased to give directions for the following promotions in and appointments to the Most Distinguished Order of Saint Michael and Saint George :—

K.C.M.G.

* * * *

ARNOLD THEILER, Esq., C.M.G.

Director of Veterinary Research, Department of Agriculture, Union of South Africa.

ORDER OF THE INDIAN EMPIRE.

The King has been graciously pleased to make the following appointments to the Most Eminent Order of the Indian Empire :—

C.I.E.

* * * *

Maj. JOHN DALRYMPLE EDGAR HOLMES, M.A., D.SC., M.R.C.V.S.

Indian Civil Veterinary Department, Imperial Bacteriologist in charge of the Veterinary Laboratory at Muktesar.

* Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, London, S.W.